

How Do I Evaluate New Technologies to Help with Alternative Uses of My Manure?

In the last year, DPI has been approached by dozens of companies interested in helping us solve our “manure problem.” After asking them what our “manure problem” is, we then learn about their system or equipment. Many of the systems being peddled involve the production of energy from manure, including electricity and gas that can be converted to electricity or heat. Most of the technologies being presented are related to on-the-farm use. So, how do you as a chicken grower evaluate the different systems and figure out if it is something of value to you? That’s a good question and one that needs to be answered before you move ahead very far.

A non-profit group called the Farm Pilot Project Coordination, Inc. (FPPC) was chartered by the Congress in 2002 to find innovative and economically viable technology while promoting the wise use of land and water and increased value for manure resources. It has helped establish farm-scale demonstrations at poultry farms.

This group recommends that animal farmers ask themselves many questions about the systems they are investigating, including this basic question. **Is the manure suited for the technology?** Other questions that need to be asked and answered are:

- What is the influence on the manure from the chickens’ feed?
- Does the manure change with different seasons of the year?
- Is the manure homogenous?
- Can foreign material/debris be introduced into the manure and litter? If yes, does this foreign material present a problem for the system?
- What are some of the material handling requirements to transfer the litter to the machinery being used?
- What is the chemistry of the litter, such as pH, alkalinity, composition, and is it an issue in the operation and effectiveness of the technology?
- How does the storage of the litter affect its use in the system, such as (time/temperature and exposure to the elements)

Based on its experiences, the Farm Pilot Project Coordination, Inc. has identified these types of things to avoid.

- Poorly defined engineering requirements
- Miscalculated solids’ loading and flow rates
- Not fully characterized waste stream
- Unclear responsibility for management at site
- Installation of large concrete structures
- Poorly integrated systems
- Underestimated operation and maintenance costs and time

Here are some important take away points when considering spending the time and money to install and operate an alternative manure use system on your farm.

- Make sure the waste stream and technology are a match
- Don't underestimate material handling issues
- Consider having a trusted consultant
- Understand how technology works and what benefits will result
- Alignment between business objectives and technology
- Observe steady state and upset conditions; don't rely solely on the claims of the technology provider; insist on objective data
- Innovative technology has risk – understand it and be prepared to manage it
- Recognize there is a learning curve and be ready to share lessons learned

Deciding to do something new and different on your farm with your manure/litter is something you don't want to rush into. Tens of thousands of your dollars could be at risk if you make a wrong decision. Make sure you ask the right questions and understand the answers you receive.